

**ROSENVINGEA ANTILLARUM  
(P. CROUAN & H. CROUAN) COMB. NOV.  
TO REPLACE *R. FLORIDANA* (W.R. TAYLOR) W.R. TAYLOR  
(SCYTOSIPHONALES, PHAEOPHYTA)**

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**ABSTRACT** — A specimen of *Stilophora antillarum* P. Crouan & H. Crouan in Schramm & Mazé from Moule, Guadeloupe, French West Indies, now deposited in PC is shown to belong to *Rosenvingea* (Scytosiphonaceae, Phaeophyta). The name *R. antillarum* (P. Crouan & H. Crouan) M.J. Wynne comb. nov. is proposed to replace the junior taxonomic synonym *R. floridana* (W.R. Taylor) W.R. Taylor (based on *Cladosiphon* ? *floridanus* W.R. Taylor).

**RÉSUMÉ** — Un spécimen de *Stilophora antillarum* P. Crouan & H. Crouan in Schramm & Mazé [1865] provenant de Moule, Guadeloupe, Antilles françaises, actuellement déposé à PC, s'est révélé appartenir au genre *Rosenvingea* (Scytosiphonaceae, Phaeophyta). Le binôme *R. antillarum* (P. Crouan & H. Crouan) M.J. Wynne comb. nov. est proposé en remplacement du synonyme *R. floridana* (W.R. Taylor) W.R. Taylor [1960] (basé sur *Cladosiphon* ? *floridanus* W.R. Taylor [1928]) sur lequel *S. antillarum* ■ priorité.

**KEY WORDS** : French West Indies, marine algae, Phaeophyta, *Rosenvingea*, *R. antillarum*, *R. floridana*, *Stilophora antillarum*

## INTRODUCTION

In his historical review of phycological exploration in the Caribbean, Taylor (1960) discussed the collections made by H. Mazé and A. Schramm in Guadeloupe, French West Indies, and the fact that the identifications were made by the Crouan brothers of Brest, France. Although the Crouans apparently did not retain Guadeloupe material in their own herbarium (Dixon, 1967), the specimens were widely distributed, most being deposited in The Natural History Museum of London, or BM, the Royal Botanic Gardens, Kew (now housed in BM), the Laboratoire de Cryptogamie of the Muséum National d'Histoire Naturelle (PC), and the Botanical Museum of Lund (LD). A pro-

blem, which was pointed out by both Taylor (1960) and Dixon (1967), is that instances are known in which some collections bearing the same name are taxonomically different. Therefore, lectotypification must be carried out with great care. A total of three publications appeared. The new species appearing in the first edition (Schramm & Mazé, 1865, 1866; treated as Edition 1a and 1b by Stafleu & Cowan, 1985) were accompanied by relatively brief descriptions. Edition 2 (Mazé & Schramm, 1878) included not only the names of those taxa that had been described earlier but some additional new names with the most minimal of descriptive phrases, such as the color in the living condition.

The name *Stilophora antillarum* of the Crouans was mentioned by Murray (1888-1889) and De Toni (1895) but without any additional information. Taylor (1960, p. 251) referred to this name as a "*nomen nudum*" appearing in Mazé & Schramm (1878), and he also said that it was "probably *Rosenvingea floridana* (Taylor) Taylor". Apparently Taylor (1960) overlooked the fact that the name first appeared in Schramm & Mazé (1865, p. 2) with the following account:

"Recueilli flottant à la lame mélangé à des amas de *Myriocladia Capensis* var. dont il doit parler l'habitat. -- Moule (fond de port). — En juin.

Fronde tubuleuse agrégée en forme de pinces gélatineuses, molasses, de consistance mucilagineuse, colorés en jaune ferrugineux; ne se modifie pas en hercier."

This same account was repeated in Schramm & Mazé (1866, p. 3) but appeared in a shortened version in Mazé & Schramm (1878, p. 116), where the occurrence of this species in May and June was indicated.

## MATERIALS AND METHODS

The single specimen of "*Stilophora antillarum*" used in this study was borrowed from the Muséum National d'Histoire Naturelle. Small portions of the specimen were removed, rehydrated in hot water with detergent (to restore them to normal size), and then hand-sectioned with a single-edged razor blade for microscopic observation. A standard Zeiss research microscope was used to examine the material. The cited names of authors of plant taxa are according to Brummitt & Powell (1992), and herbarium abbreviations are according to Holmgren *et al.* (1990).

## OBSERVATIONS

*Rosenvingea floridana* was first described from the Dry Tortugas in the Gulf of Mexico by Taylor (1928) as "*Cladosiphon* ? *floridana*" and subsequently transferred to *Rosenvingea* (Taylor, 1955). The genus *Rosenvingea* was established by Borgesen (1914) for three species of parenchymatous brown algae that were characterized by branched hollow fronds, reproduction solely by plurilocular sporangia, and cells containing a single chloroplast. Borgesen assigned the genus to the Encoeliaceae, along with *Scytosiphon*, *Colpomenia*, and *Hydroclathrus*, with which he compared the new genus. These four genera are now placed in the Scytosiphonaceae (Wynne, 1982), following Feldmann's (1949) recognition of the order Scytosiphonales and the family Scytosiphonaceae.

Growth takes place in *Rosenvingea* by intercalary division throughout the entire thallus but more vigorously in the ends of the branches, although there is no true apical division (Borgesen, 1914). There may be problems in distinguishing species of *Rosenvingea*

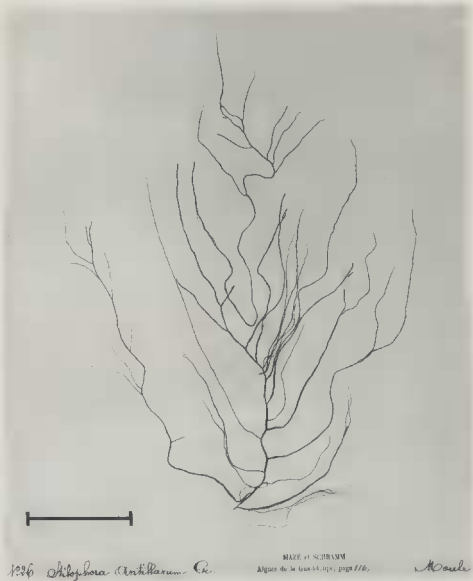


Fig. 1. Specimen of *Stilphora antillarum* P. Crouan & H. Crouan (from Moule, Guadeloupe) in PC, with accompanying label. Scale bar = 5 cm.

from branched species of *Colpomenia*. Thalli of species of *Rosenvingea* are always freely branched and usually erect, whereas thalli of *Colpomenia* are spherical, saccate, or prostrate expanses (Wynne & Norris, 1976). *Rosenvingea floridana* differs from other species of the genus by its narrower (to 1.5 mm) axes, mostly terete rather than flattened, and by branching to fewer orders (usually 2 or 3) (cf. Earle, 1969: 206-207, fig. 115). *Rosenvingea floridana* has been recorded from southern Florida (Taylor, 1960; Earle, 1969; Humm, 1976), the Caribbean coast of Colombia (Schnetler, 1976) as well as from southern California (Abbott & Hollenberg, 1976) and Bangladesh in the Indian Ocean (Islam, 1976).

At my request Dr. Françoise Ardré conducted a search for material of *Stilophora antillarum* in the Muséum National d'Histoire Naturelle. She succeeded in locating a single specimen (Fig. 1), which was located in a cabinet in the library of the Laboratoire de Cryptogamie. This cabinet was one of two cabinets in the library containing preserved exsiccatae which had not been intercalated into the Herbarium (PC). The specimen was sent to MICH on loan. On the herbarium sheet are the handwritten words "No. 26 Stilophora Antillarum Cr." and "Moule" and the printed label "MAZÉ et SCHRAMM Algues de la Guadeloupe, page" with the annotation "116". The provenance of Moule would strongly suggest that this specimen represents a syntype. This conclusion, however, is made uncertain by the appearance in the bottom right corner of the sheet of a few words that had been written in pencil and then erased; although very faint, the words "Mai 1868" are barely detectable. The "page 116" refers to its listing in the Mazé and Schramm (1878) publication. Thus, it is uncertain whether this specimen was used by Schramm & Mazé in the original description or used only for the second edition, and possibly collected separately. There is little doubt, however, in regarding this specimen as conforming to the Crouans' concept of *Stilophora antillarum*. To support this conclusion is the identical appearance of a specimen of *Stilophora antillarum* in BM, which was photographed by Prof. W. R. Taylor in 1930. The specimen was accompanied by the label "M & S 371", which conforms to the collection number given in Mazé & Schramm (1878). The photograph (now in MICH) bears Taylor's annotation "? = *Rosenvingea floridana* (Tayl.) Taylor 1955". The aspect of both of these specimens resembles *R. floridana*. The axes are narrow (to only 1.0 mm) and terete; branching is sparse and irregular. The specimens are at least 25 cm tall and would be taller if the flexuous axes were drawn out. Microscopic examination showed the axes to be hollow. The thallus consists of a small-celled cortex and a larger-celled sub-cortex/medullary organized parenchymatously. Most cross-sections appeared to represent immature regions of the thallus or to have already released reproductive structures, but a few sections showed sori with plurilocular reproductive organs. The plurilocular organs were uni- or biserial, consisting of up to 6 or 7 locules in length, and measured up to 32-36  $\mu\text{m}$  in length and 4-6  $\mu\text{m}$  in width. The shape of the plurilocular organs was more elongate than the ones depicted by Taylor (1960, pl. 29, figs 7-8), but this difference may be attributed to the Guadeloupe plants being more mature than Taylor's plants. Enlarged, misshapen cells with golden refractive contents apparently were collapsed paraphyses.

## DISCUSSION

The present observations support the suggestion of Taylor (1960) that *Stilophora antillarum* is the same as his own *Rosenvingea floridana*. Taylor (1960) regarded *Stilophora antillarum* as invalidly published in 1878, but he overlooked that Schramm &

Mazé provided a valid description in 1865. *Stilophora antillarum* Schramm & Mazé 1865 has priority over *Cladosiphon floridanus* Taylor 1928. Thus, the following binomial is proposed:

*Rosenvingea antillarum* (P. Crouan & H. Crouan in Schramm & Mazé) M.J. Wynne comb. nov.

Basionym: *Stilophora antillarum* P. Crouan & H. Crouan in Schramm & Mazé, 1865, p. 2.

Taxonomic synonym: *Rosenvingea floridana* (W.R. Taylor) W.R. Taylor, 1955, p. 73.

Basionym: *Cladosiphon* ? *floridanus* W.R. Taylor, 1928, p. 113, pl. 15, figs 10-14 ("floridana").

The gross habit shown in *Rosenvingea antillarum*, consisting of terete axes with irregular branching, resembles that of *Strictosiphon lutarius* W.R. Taylor, described from Jamaica (Taylor, 1974) and also reported from Puerto Rico (Ballantine & Aponte, 1997). But in *S. lutarius* the medulla is solid (composed mainly of four major rows of cells), the branching is to a much higher degree, and apparent unilocular sporangia are formed in the cortex.

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